

Notice of Allowability

Application No.

09/928,934

Examiner

TUAN A PHAM

Applicant(s)

TERADA ET AL.

Art Unit

2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 08/13/2001.
2. ☒ The allowed claim(s) is/are 1-14 which are now renumbered as claims 1,2,4,3,5-9,11,10, and 12-14, respectively.
3. ☒ The drawings filed on 10/11/2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

REASONS FOR ALLOWANCE

1. Claims 1-14 are allowed over the prior art of record.
2. The following is an examiner's statement of reasons for allowance:

Urbanski (U.S. Patent No.: 5,696,821) teaches the apparatus for reducing the echo Canceller signal in the communication device. The device comprises a reverse voice processor which carries out the voice detection processing of a reception signal, the forward voice processor which carries out the voice detection processing of a transmission signal, an attenuator which attenuates the reception signal and the transmission signal, the noise estimator computes a noise signal receiving from the signal to noise ratio calculator, and an attenuation controller which controls the losses of the reception voice attenuator. The transmission voice attenuator adjusts samples of frame according to the results of the voice detection of the reverse voice processor and forward voice processor.

Sih et al. (U.S. Patent No. 5,920,834) teaches a method and apparatus for controlling the echo canceller in a digital telephone system that comprises a voice activity detector and threshold generator for computing the threshold of the noise level based on the receiving signal and transmitting signal, and updating the threshold level whenever the voice activity detector determines a minimal noise level of speaker.

Hemkumar (U.S. Patent No. 6,434,110) discloses a full duplex speakerphone circuit including a noise estimator and threshold computing section.

Janiszewski et al. (U.S. Patent No. 5,657,422) discloses a voice activity detection including a speech attenuator and comfort noise inserted.

Barrett (U.S. Patent No. 6,061,647) discloses a voice activity detector including a threshold and comparator section.

However, the prior art made of record fails to teach or suggest, in combination, the arrangement of the voice detection processing section comprising a signal level computing section which computes the amplitude level of the reception signal or the transmission signal in each predetermined sample or frame, a noise level estimating section which computes a noise level estimate from the signal outputted from the signal level computing section, a threshold computing section which computes a threshold for detecting a voice from the noise level estimate, a voice detecting section which compares the reception signal or the transmission signal with the threshold to detect a voice, and an updating amount setting section which sets the updating amount of the noise level estimate in the noise level estimating section according to the result of the detection of the voice detecting section, in combination with other limitations, as specified in the independent claims 1-3 and 8-10, and further limitations of their respective dependent claims 4-7, and 11-14.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tuan A. Pham** whose telephone number is (703) 305-4987 and E-mail address is: **tuan.pham@USPTO.GOV**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Curtis Kuntz, can be reached on (703) 305-4708 and

IF PAPER HAS BEEN MISSED FROM THIS OFFICIAL ACTION PACKAGE, PLEASE CALL Customer Service at (703) 306-0377 FOR THE SUBSTITUTIONS OR COPIES.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA, Sixth Floor (Receptionist, tel. No. 703-305-4700).

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Date: July 28, 2004

Examiner

Tuan Pham


CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600